REMARKS

Claims 1-20 are pending in the present application. In the Office Action mailed November 14, 2005, the Examiner rejected claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over Blankenship (US Pub. 2003/0094487) in view of Remy (EP 1 117 279 A1). The Examiner also objected to the Title as being non-descriptive. Applicant has amended the title to more accurately reflect the subject matter of the claims.

As an initial matter, it is noted that the rejection of claims 1-20 relies, in part, on Remy. Remy, as cited and provided by the Examiner, is completely in French. It is unreasonable for the Office to assume that an applicant will be fluent in every foreign language for which the Office may consider any particular reference relevant to the claimed invention. Inasmuch as the Examiner has provided no citation to Remy for what is relied upon therein, the Examiner has failed to provide the information and references necessary for Applicant to establish the priority of the rejection as required by 37 C.F.R. §1.104(a)(2). Applicant has born the expense of acquiring a translation of Remy only to expedite prosecution of the above-captioned matter. In accordance with 37 C.F.R. §1.104(a)(2), should the Examiner apply other foreign language documents, Applicant requests that the Examiner also provide an English-language translation of such references. An IDS is enclosed herewith citing the translation of Remy.

The Examiner rejected claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over Blankenship in view of Remy. Applicant has herein canceled claims 1-17, amended claim 18, and presented new claims 21-37. As indicated by the amendment to the Title, as presented herein, the claims of the present Application are directed to a method and apparatus for the detection of plasma torch consumable components. As argued further below, the art of record does not teach or suggest that which is called for in the present claims.

The Examiner rejected claim 18 under 35 U.S.C. §103(a) as being unpatentable over Blankenship in view of Raney stating that "Blankenship teaches identification of an entire torch, which is construed as containing consumables, whereas the claims define identification of the electrode in a torch." The Examiner further maintains that "Blankenship does teach control of the welding parameters in response to sensing" and that "the patent to Ep '279 teaches identification of a consumable in a plasma torch, an electrode, and torch control in response to this sensing." The Examiner further asserts that "More automated torch operation is the benefit in Ep 279' [sic] and in view of this teaching it would have been obvious to modify the Blankenship system to specifically detect electrode type in lieu of torch type, to enable a more automated torch operation to be effected." Applicant respectfully disagrees.

Perhaps the extraneous alleged disclosure of the Remy is the result of the reference being in French. As stated in the translation provided herewith, "the solution that is contributed by the present invention is based essentially on the incorporation in the torch head of an identification system that can warn the operator immediately and effectively if the torch head that has been placed is not compatible with the selected process and/or with the current amperage and/or another operating parameter." Remy Translation, pg. 10, ¶[0053]. That is, an operator configures the machine to a selected process, and is alerted if the consumable set attached to the torch is not operable at the parameters associated with the selected process. Remy further states that "identification element 5 is connected to a signal processing unit 6 which makes it possible to instruct the operator, if he/she made an incorrect choice, to verify the presence of the required fluids, to detect the presence of the torch head 2 which is appropriate for the process to be used, and thus to authorize or not authorize the performance of the cutting process." Remy Translation, pg. 11, ¶[0061]. If a consumable set that is incapable of operating at the preset parameters is attached to the torch of Remy, the operator is notified and operation of the plasma cutting system disabled. That is, the system of Remy does not set or adjust a parameter associated with a plasma cutting process but prevents operation of the system at the user set parameters if an improper consumable is connected thereto. Once an improper consumable set is attached to the torch, if an operator desires to perform a cutting process with the selected consumable set, the operator must adjust the parameters to allow authorization of operation of the plasma cutting system. This is not what is claimed.

Claim 18 calls for, in part, a plasma cutter having means for detecting a type of consumable disposed within the torch and means for setting a parameter of the plasma cutting process based on the type of consumable detected. The art of record does not teach such a system. Remy discloses a system wherein the plasma cutter is disabled unless a consumable set associated with the operator set parameters is connected to the torch. Rather than requiring the operator to set the parameters of the plasma cutting process, the plasma cutting system of the present invention dynamically sets the operating parameters of the plasma cutting process responsive to the characteristics of the consumable components attached thereto. Such a plasma cutting system is not taught by the art of record.

Unlike the plasma cutter subject matter of Remy, Blankenship et al. is directed to coded and electronically tagged welding wire. Title. That is, Blankenship et al. discloses a weld wire, or spool thereof, having a tag identifier that is readable by a welding-type device. ¶¶[0048], [0059]. Unlike the present invention and the subject matter of Remy, Blankenship et al. is

directed to a welder -- not a plasma torch. The welder of Blankenship et al. and the plasma cutter of the present claims have different purposes and are fundamentally different apparatus. The Examiners suggestion that "[m]ore automated torch operation is the benefit in Ep 279' and in view of this teaching it would have been obvious to modify the Blankenship system to specifically detect electrode type in lieu of torch type, to enable more automated torch operation to be effected" is diametrically opposed to the disclosure of Remy. Remy discloses that if an unacceptable consumable set is connected to the torch, the torch is disabled. Comparatively, Blankenship et al. teaches monitoring of a consumable weld wire as it passes through a welding torch. The only "consumable" component of a plasma cutting system which passes through a torch is the plasma supporting gas flow. One of ordinary skill in the art would readily appreciate the substantial differences between a welding consumable element, such as weld wire, and a plasma torch consumable component, such as an electrode.

The presently claimed invention is specifically directed to plasma cutting. One of ordinary skill in the art would recognize that plasma cutting and welding, in the context of the invention, are distinct fields of invention and not readily combinable. That is, welding is generally understood to connect parts whereas plasma cutting is generally appreciated to sever a part. "It is the duty of the examiner to explain why the combination of the teachings is proper." MPEP §2142; Ex parte Skinner, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1986). Further, "either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." MPEP §2142; Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). Because of the inapplicability of Blankenship et al., the fundamental differences between welding and plasma cutting, and the absence of a reason to modify a welding system with a plasma cutter, the current rejection is respectfully believed unsustainable under MPEP §2142.

Claims 21-37 are newly presented herein. Claim 21 calls for, in part, a plasma cutting system having a controller configured to automatically determine a type of plasma torch consumable connected to a torch and configured to adjust an operating parameter of the power source based on the type of plasma torch consumable component. As argued above, the art of record does not teach a plasma cutting system capable of adjusting an operating parameter of the power source based on the type of plasma torch consumable component. In fact, Remy teaches that the power source is disabled if the consumable component is not operable at the user defined operating parameters. That is, rather than configuring the power source to support operation of

the consumable component attached thereto, Remy does not allow operation of the plasma cutting system unless the user has (1) connected a desired plasma consumable assembly to the torch and (2) configured the power source of the plasma cutting system to operate with the intended plasma consumable assembly. Unlike the system of Remy, the plasma cutting system of the present invention is operable when any consumable set is connected to the torch. The system is responsive to the consumable set which the operator connects thereto. That is, the system adjusts responsive to the consumable components connected thereto. Such a plasma cutting system is not suggested or taught in the art of record. Accordingly, Applicant believes that which is called for in claim 21, and the claims that depend therefrom, are patentably distinct over the art of record.

Similarly, claim 30 calls for a method of defining a plasma cutting process with includes automatically adjusting an operating parameter of a plasma cutting process to control cutting based on a sensed characteristic of a fixed component. Remy does not disclose adjusting an operating parameter of a plasma cutting process as called for in claim 30. As argued above, Remy discloses that the system thereof remains inoperable until a specific consumable assembly is connected to the torch thereof. Rather than defining an operating parameter as determined by a consumable type, Remy discloses disabling the system thereof until the consumable assembly associated with the operators' settings is connected to the torch assembly. Claim 30 further defines that the method detects the presence of a fixed component in a plasma torch. One of ordinary skill in the art would readily appreciate that the consumable wire of Blankenship et al. is not a fixed component of the system thereof but must be passed through a welding torch during a welding process. That is, Blankenship et al. monitors a consumable component that is passed through a torch. The only "consumable component" of a plasma cutting system which passes through the torch during operation thereof is the flow of gas utilized for plasma generation. Claim 30 calls for adjusting an operating parameter of a plasma cutting process to control cutting based on a sensed characteristic of a fixed component. The art of record, individually or in combination, does not teach or suggest such a system. Accordingly, Applicant believes claim 30, and the claims that depend therefrom, are patentably distinct over the art of record.

The art of record does not teach or suggest that which is called for in the claims included herein. The Examiner's rejection is premised on the unsupported interpretation that one of ordinary skill in the art would be motivated to combine the coded and electronically tagged welding wire of Blankenship et al. with the plasma cutting system of Remy. Even assuming arguendo that one of ordinary skill in the art would be motivated to combine the references in the

manner done by the Examiner, as argued above, this strained combination does not teach or suggest each and every element of the present claims.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 18-37.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

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